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NEW SPECIES AND NEW GENERA OF AMERICAN TINGIDAE (HEMIPTERA).

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This paper is based upon lace bugs collected by E. J. Hambleton and some miscellaneous specimens from Central and South America. We are indebted to Mr. W. E. China of the British Museum for comparing the new species of *Leptopharsa* Stål (with transverse fasciae in costal areas) with the type of *L. constricta* Champion from Guatemala. Dr. R. I. Sailer has kindly loaned us the specimens of this group in the U. S. National Museum. The disposition of types is indicated beneath the descriptions of each new species.

Zelotingis, n. gen.

Head very short, the frontal pair of spines short, the others absent; bucculae short, broad, not meeting in front. Rostrum short, extending a little beyond mesosternum; mesosternum longitudinally furrowed so as to form rostral groove, without rostral laminae; metasternum slightly convex, the laminae low, widely separated, cordate, present on sides and behind. Eyes moderately large, transverse, excerted. Orifice distinct, rimmed. Antennae long, longly pilose, slender; segment I moderately long, stouter and more than twice as long as II; III longest, slenderest, slightly tapering apically, truncate at apex; IV extremely long, slightly thickened, about two-thirds the length of III. Antenniferous tubercles represented by broad laminae.

Pronotum moderately convex, pitted, tricarinate, the hind triangular process reticulate; hood moderately large, inflated, projecting over base of head; paranota, carinae, hood and outer margins of elytra beset with long fine hairs, the areolae large; carinae foliaceous, with large areolae, the lateral pair slightly convex within; paranota large, strongly reflexed. Elytra broad, much longer than abdomen, widely reticulate, divided into the usual area, the discoidal area not reaching middle of elytra.

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Legs long, rather slender, beset with long hairs. Body beneath and bucculae moderately hairy.

Generotype, Zelotingis aspidospermae (Drake and Hambleton) (=Stenocysta aspidospermae).

This genus may be separated from *Stenocysta* Champion by the long fourth antennal segment (attached at the centre of apex of third segment), large areolae, and much shorter discoidal area of elytra.

Zelotingis aspidospermae is represented in our collection by specimens from Minas Gerais, Brasil (types) and Horqueta, Paraguay. It feeds on Aspidosperma melanocalyx Muell. Arg.

Vatiga, n. gen.

Elongate, slender, subparallel. Head short, usually with three spines, the front pair atrophied or wanting, sometimes with median wanting. Antennae long, slender, the fourth segment generally as long or longer than one and two conjoined, the first segment usually long. Bucculae contiguous in front. Rostrum extending on mesosternum. Rostral channel deeply, broadly constricted on mesosternum. Pronotum convex, pitted, tricarinate; collar distinct; calli present; paranota narrow, areolate, somewhat rectangular in outline; triangular process well developed, areolate. Orifice distinct. Elytra elongate, divided into usual areas, the discoidal area extending around middle of elytra. Hypocostal ridge present. Hood absent, sometimes the median carina slightly elevated on collar.

Generotype, Vatiga vicosana, n. sp.

The name Vatiga is an anagram of Tigava. The general shape of the insect and the deeply constricted rostral groove on the mesosternum separate this genus from Tigava Stål or Leptopharsa Stål. Leptopharsa longula Drake (1922), L. manihotae Drake (1934), L. illudens Drake (1922), L. illudens variantis Drake (1930), Tigava cassiae Drake and Hambleton (1934), T. lonchocarpa Drake and Hambleton (1944) and T. sesoris Drake and Hambleton (1942) are congeneric and belong to the new genus Vatiga. These species are similar in form and have the rostral channel deeply constricted.

Vatiga vicosana, n. sp.

Moderately large, elongate, brown, the carinae, paranota, costal area and cephalic spines testaceous. Head short, smooth; median spine porrect, moderately long; hind pair of spines long, slender, strongly recurved forward, the anterior ends nearly touching or touching surface of head. Antennae very long, indistinctly pilose; segment I rather long, three times as long and considerably stouter than II, the latter short; III very slender testaceous, straight, three times as long as IV; IV moderately thickened, hairy, mostly brownish black. Antenniferous tubercles broad. Rostrum yellowish brown, not quite reaching middle of mesosternum; rostral laminae testaceous, areolate, deeply constricted on mesosternum. Bucculae broad, areolate, margined with testaceous.

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Front margin of pronotum testaceous. Body beneath brown, smooth, somewhat shiny.

Paranota moderately transversely convex, deeply pitted, tricarinate; carinae foliaceous, uniseriate, the areolae small; lateral pair slightly divaricating anteriorly, faintly convex within in front, median carina raised on collar; collar distinct, uniseriate; calli deep, dark; paranota testaceous, biseriate in front, narrower and uniseriate behind. Elytra elongate, narrow, slightly constricted behind middle; costal area biseriate, moderately wide, testaceous; discoidal area extending slightly beyond middle, widest near middle, there five areolae deep; sutural areas completely overlapping in repose, the areolae becoming a little larger apically.

Length, 3.00 mm.; width, 1.10 mm.

Type (male), allotype (female) and 5 paratypes, Vicosa, Minas Gerais, Brazil, April 29, 1934, E. J. Hambleton, in Drake Collection.

The lighter color, more foliaceous carinae and narrower paranota separate this species from V. variana, n. sp.

Vatiga variana, n. sp.

Head black, short, the hind pair of spines very short, adpressed, testaceous, the others wanting. Bucculae blackish, margined with testaceous. Eyes transverse, black. Rostrum short, brownish, extending on mesosternum. Antennae long, indistinctly pilose; segment I moderately long, black, nearly two and one-half times as long as II; II very short, black, much slenderer; III long, dark fuscous, pale at apex, three times as long as IV; IV hairy, black-fuscous. Body beneath blacks rostral laminae testaceous, deeply constricted on mesosternum. Legs slender, brownish testaceous, the tibiae testaceous, the tarsi dark.

Pronotum moderately convex, tricarinate, strongly narrowed anteriorly; carinae distinct, mostly testaceous, dark on disc, low, indistinctly areolate; lateral carinae slightly concave within anteriorly; collar distinct, truncate in front, scarcely elevated at middle. Paranota narrow, narrower than in other species of the genus, uniseriate opposite calli, biseriate in front, the outer margins straight. Elytra moderately broad, with discoidal area moderately broad, biseriate (on one side with two extra areolae in widest part); subcostal area biseriate, narrow; discoidal area reaching middle of elytra, five areolae deep in widest part; sutural area becoming more widely areolate posteriorly.

Length, 3.85 mm.; width, 2.25 mm.

Type (female), Rio Grande do Sul, Brazil, in Drake Collection. Separated from its congenors by the narrower paranota, blackish color and short hind pair of spines. It is most closely related to V. longula (Drake) and separated from it by more lacy appearance, much shorter first antennal segment, shorter hind pair of spines and dark color.

Leptopharsa rumiana, n. sp.

Small, slender, whitish testaceous, the head and pronotum black, a transverse band in costal area near base of elytra, discoidal, sutural and

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most of subcostal area fuscous to dark fuscous. Head short, often covered with whitish exudations, with five moderately long spines, the three anterior ones black (median longest), and the hind pair brownish. Antennae moderately long, indistinctly pilose, testaceous, the basal two and apical segments slightly darker, usually brown; segments I and II short, moderately thickened, the former longer and slightly thicker; segment III very slender, straight, about three times the length of IV, the latter slightly enlarged. Rostrum brownish, almost extending to end of sulcus; rostral laminae testaceous. Body beneath black; bucculae margined with testaceous.

Pronotum moderately convex, coarsely deeply pitted, the paranota, carinae, hood and most of triangular process testaceous; hood small, inflated; paranota narrow, slightly reflexed, biseriate, the areolae small; carinae foliaceous, uniseriate, the areolae small, the lateral pair distinctly constricted behind disc, the median with a small dark fuscous spot on disc; triangular process areolate. Elytra rather narrow, widest at transverse band, distinctly constricted behind middle; costal area almost entirely biseriate, uniseriate apically; subcostal area narrower, mostly biseriate; discoidal area short, not extending to middle of elytra, with a slightly raised, dark fuscous spot at apex, widest beyond middle, there three areolae deep. Legs very slender, whitish testaceous. Abdomen beneath black.

Length, 2.55 mm.; width, 1.00 mm.

Type (male), allotype (female) and 42 paratypes, taken on fiber plant, Malvaviscus arboreus at San Andres, El Salvador, July 21-26, 1944, E. J. Hambleton; 2 paratypes, Finca, Los Cerritos, Guatemala, July 6, 1944, E. J. Hambleton.

This species differs from L. constricta Champion in having a smaller, less inflated hood, and the antennae is longer with fourth segment yellowish or brownish instead of black. The elytra are also narrower and less concave along costal margins. Type in Drake Collection. Paratypes in U. S. National and British Museum.

Leptopharsa machalana, n. sp.

Small, moderately elongate, the costal area with a prominent, darkfuscous band near the base. Pronotum moderately convex, deeply pitted, black, the triangular process, hood, carinae and paranota whitish testaceous; hood small, moderately swollen; paranota biseriate, the areolae small; carinae uniseriate, the areolae very small, the lateral carinae constricted behind disc and slightly concave within on disc; paranota, hood, apical portion of triangular process and carinae whitish testaceous, the median with fuscous spot on disc. Antennae moderately long, indistinctly pilose; segment I short, dark fuscous, slightly stouter and longer than II, the latter testaceous; III testaceous, about three times as long as IV; IV yellowish to pale brown, slightly enlarged, shortly pilose.

Head black, with five moderately long spines, the hind pair brownish,

the others dark, the median longest; eyes reddish brown to dark; elytra very similar in color and markings to *L. rumiana* n. sp. Legs very slender, whitish testaceous. Rostrum extending to base of mesosternum. Body beneath black.

Length, 2.25 mm.; width, 0.85 mm.

Type (male), allotype (female) and 12 paratypes, Machala, Ecuador, September 27, 1944, taken on a species of *Desmodium* by E. J. Hambleton. Akin to *L. rumiana* n. sp. but smaller and with less inflated hood. Type in Drake Collection.

Leptopharsa machalana vinnula, n. var.

Closely allied to *L. machalana* n. sp. from Ecuador in size, form and color, but differs from it in having the first two antennal segments and the apical half of fourth dark fuscous; the hood slightly more tectiform, the nervures infuscate. Paranota narrowed anteriorly, the nervelets bordering humeri infuscate. Sutural area with three large and two or three smaller areolae before apex hyaline. Rostrum extending to mesometasternal suture. Legs very slender, testaceous. Antennae moderately long, indistinctly pilose; segment I short, longer and stouter than II, both dark fuscous; III, whitish testaceous, about three times as long as IV, the latter moderately swollen, hairy, the distal half dark fuscous. Other structures and color very similar to *L. machalana*.

Length, 2.20 mm.; width, 0.85 mm.

Type (male), allotype (female) and 32 paratypes, Fort Pierce, Florida, October 7, 1942, W. Mathis; taken on Beggars lice and Caeser's burr. Type in U. S. National Museum.

Distinctly narrower and with the hood much less swollen than in L. clitoriae (Heidemann) or L. constricta (Champion).

Since writing the above description, numerous specimens, taken on *Desmodium* (Leguminosae), Puerto Barrios, Guat., May 8, 1945, are almost indistinguishable from the Florida examples of *vinnula*, and indicates that *vinnula* is not more than a variety of *L. machalana*. It seems advisable to treat *vinnula* as a variety because of host plants, the wide range or distribution and slight color differences of antennae. More information is needed on the food habits of the *constricta* group of *Leptopharsa*.

Leptopharsa siderea, n. sp.

Very similar to *L. vinnula* n. sp. in size and general appearance, but easily separated from it and other members of the group by the absence of a transverse band in the costal area. Hood, paranota, carinae, apex of hind pronotal process and costal areas of elytra whitish testaceous. Pronotum moderately convex, black, finely pitted; carinae finely uniseriate, the lateral carinae slightly constricted behind. Elytra moderately constricted behind middle; costal area moderately wide, irregularly unibiseriate in front, biseriate in widest part; subcostal area triseriate, the nervures brown to fuscous; discoidal area small, not reaching middle of

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elytra, triseriate. The nervures also brown to fuscous and with centres whitish; sutural area brown, with three large areolae near the apex clear, the others brown. Antennae moderately long, indistinctly pilose, slender; segments I and II brownish, short, the latter slenderer and nearly one-half the length of the first; III very long, slender, testaceous, nearly two and one-half times the length of IV, the latter slightly thickened, the apical two-thirds dark brown or fuscous. Rostrum brownish, extending between intermediate coxae. Orifice with prominent, white, projecting margin. Legs slender, testaceous, the tarsi dark.

Length, 2.22 mm.; width, 85 mm.

Type (female) and allotype (male), taken on undetermined legume, Esquintla, Guat., June 27, 1945, E. J. Hambleton, in Drake Collection. The whitish testaceous costal area without transverse bands separates this species from C. constricta Champion and the new species described above.